

<110> MCGILL UNIVERSITY
KARAPLIS, Andrew C.
GOLTZMAN, David
LIPMAN, Mark L.
HENDERSON, Janet E.

<120> USE OF PEX IN THE TREATMENT OF METABOLIC
BONE DISEASES

<130> 1770-214PCT FC/

<140> PCT/CA99/00895

<141> 1999-09-27

<150> CA 2,245,903

<151> 1998-09-28

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Gln	Val	Gln	Ile	Gly	Ala	His	Ser	Pro	Pro	Gln	Phe	Arg	Val	Asn	Gly	

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 Ala Lys Gln Glu Tyr Cys Leu Lys Pro Glu Cys Ile Glu Ala Ala Ala
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 Phe Arg Phe Ala Cys Asp Gly Trp Ile Ser Asn Asn Pro Ile Pro Glu
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 Asp Met Pro Ser Tyr Gly Val Tyr Pro Trp Leu Arg His Asn Val Asp
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 Leu Lys Leu Lys Glu Leu Leu Glu Lys Ser Ile Ser Arg Arg Arg Asp
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 Thr Glu Ala Ile Gln Lys Ala Lys Ile Leu Tyr Ser Ser Cys Met Asn
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 Glu Lys Ala Ile Glu Lys Ala Asp Gly Lys Pro Leu Leu His Ile Leu
 145 150 155 160
 Arg His Ser Pro Phe Arg Trp Pro Val Leu Glu Ser Asn Ile Gly Pro
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 Glu Gly Val Trp Ser Glu Arg Lys Phe Ser Leu Leu Gln Thr Leu Ala
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 Thr Phe Arg Gly Gln Tyr Ser Asn Ser Val Phe Ile Arg Leu Tyr Val
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 Ser Pro Asp Asp Lys Ala Ser Asn Glu His Ile Leu Lys Leu Asp Gln
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Glu	Met	Met	Glu	Glu	Leu	Val	Glu	Gly	Val	Arg	Trp	Ala	Phe	Ile	Asp
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730

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 Pro Gln Trp Asp Lys Cys Val Asn Phe Ile Glu Ser Ala Leu Pro Tyr
 405 410 415
 Val Val Gly Lys Met Phe Val Asp Val Tyr Phe Gln Glu Asp Lys Lys
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 Glu Met Met Glu Glu Leu Val Glu Gly Val Arg Trp Ala Phe Ile Asp
 435 440 445
 Met Leu Glu Lys Glu Asn Glu Trp Met Asp Ala Gly Thr Lys Arg Lys
 450 455 460
 Ala Lys Glu Lys Ala Arg Ala Val Leu Ala Lys Val Gly Tyr Pro Glu
 465 470 475 480
 Phe Ile Met Asn Asp Thr His Val Asn Glu Asp Leu Lys Ala Ile Lys
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 Leu Ala Gln Ser Asp Phe Phe Trp Leu Arg Lys Ala Val Pro Lys Thr
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 Glu Trp Phe Thr Asn Pro Thr Thr Val Asn Ala Phe Tyr Ser Ala Ser
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 Thr Asn Gln Ile Arg Phe Pro Ala Gly Glu Leu Gln Lys Pro Phe Phe
 545 550 555 560
 Trp Gly Thr Glu Tyr Pro Arg Ser Leu Ser Tyr Gly Ala Ile Gly Val
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 Tyr Asp Lys Asn Gly Asn Leu Asp Pro Trp Trp Ser Thr Glu Ser Glu
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 Tyr Arg Lys Trp Ile Asn Asp Arg Arg Gln Gly Leu Glu Glu Pro Leu
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 675 680 685
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Met Glu Ser Gln Met Asp Ile Thr Asp Ile Asn Thr Pro Lys Pro Lys																
1 5 10 15																
Lys	Lys	Gln	Arg	Trp	Thr	Pro	Leu	Glu	Ile	Ser	Leu	Ser	Val	Leu	Val	
		20						25				30				
Leu	Leu	Leu	Thr	Ile	Ile	Ala	Val	Thr	Met	Ile	Ala	Leu	Tyr	Ala	Thr	
		35				40						45				
Tyr	Asp	Asp	Gly	Ile	Cys	Lys	Ser	Ser	Asp	Cys	Ile	Lys	Ser	Ala	Ala	
50						55		60								
Arg	Leu	Ile	Gln	Asn	Met	Asp	Ala	Thr	Thr	Glu	Pro	Cys	Thr	Asp	Phe	
65					70				75						80	
Phe	Lys	Tyr	Ala	Cys	Gly	Gly	Trp	Leu	Lys	Arg	Asn	Val	Ile	Pro	Glu	
				85				90						95		
Thr	Ser	Ser	Arg	Tyr	Gly	Asn	Phe	Asp	Ile	Leu	Arg	Asp	Glu	Leu	Glu	
		100						105				110				
Val	Val	Leu	Lys	Asp	Val	Leu	Gln	Glu	Pro	Lys	Thr	Glu	Asp	Ile	Val	
		115				120						125				
Ala	Val	Gln	Lys	Ala	Lys	Ala	Leu	Tyr	Arg	Ser	Cys	Ile	Asn	Glu	Ser	
130						135				140						
Ala	Ile	Asp	Ser	Arg	Gly	Gly	Glu	Pro	Leu	Leu	Lys	Leu	Leu	Pro	Asp	
145					150				155						160	
Ile	Tyr	Gly	Trp	Pro	Val	Ala	Thr	Glu	Asn	Trp	Glu	Gln	Lys	Tyr	Gly	
				165				170						175		
Ala	Ser	Trp	Thr	Ala	Glu	Lys	Ala	Ile	Ala	Gln	Leu	Asn	Ser	Lys	Tyr	
		180						185				190				
Gly	Lys	Lys	Val	Leu	Ile	Asn	Leu	Phe	Val	Gly	Thr	Asp	Asp	Lys	Asn	
		195				200						205				
Ser	Val	Asn	His	Val	Ile	His	Ile	Asp	Gln	Pro	Arg	Leu	Gly	Leu	Pro	
210						215				220						
Ser	Arg	Asp	Tyr	Tyr	Glu	Cys	Thr	Gly	Ile	Tyr	Lys	Glu	Ala	Cys	Thr	
225					230				235						240	
Ala	Tyr	Val	Asp	Phe	Met	Ile	Ser	Val	Ala	Arg	Leu	Ile	Arg	Gln	Glu	
				245				250						255		
Glu	Arg	Leu	Pro	Ile	Asp	Glu	Asn	Gln	Leu	Ala	Leu	Glu	Met	Asn	Lys	
		260						265				270				
Val	Met	Glu	Leu	Glu	Lys	Glu	Ile	Ala	Asn	Ala	Thr	Ala	Lys	Pro	Glu	
		275				280						285				
Asp	Arg	Asn	Asp	Pro	Met	Leu	Leu	Tyr	Asn	Lys	Met	Thr	Leu	Ala	Gln	
290						295				300						
Ile	Gln	Asn	Asn	Phe	Ser	Leu	Glu	Ile	Asn	Gly	Lys	Pro	Phe	Ser	Trp	
305					310				315						320	
Leu	Asn	Phe	Thr	Asn	Glu	Ile	Met	Ser	Thr	Val	Asn	Ile	Ser	Ile	Thr	
				325				330						335		
Asn	Glu	Glu	Asp	Val	Val	Val	Tyr	Ala	Pro	Glu	Tyr	Leu	Thr	Lys	Leu	
		340						3								

405 410 415
 Glu Asn Ala Val Gly Arg Leu Tyr Val Glu Ala Ala Phe Ala Gly Glu
 420 425 430
 Ser Lys His Val Val Glu Asp Leu Ile Ala Gln Ile Arg Glu Val Phe
 435 440 445
 Ile Gln Thr Leu Asp Asp Leu Thr Trp Met Asp Ala Glu Thr Lys Lys
 450 455 460
 Arg Ala Glu Glu Lys Ala Leu Ala Ile Lys Glu Arg Ile Gly Tyr Pro
 465 470 475 480
 Asp Asp Ile Val Ser Asn Asp Asn Lys Leu Asn Asn Glu Tyr Leu Glu
 485 490 495
 Leu Asn Tyr Lys Glu Asp Glu Tyr Phe Glu Asn Ile Ile Gln Asn Leu
 500 505 510
 Lys Phe Ser Gln Ser Lys Gln Leu Lys Lys Leu Arg Glu Lys Val Asp
 515 520 525
 Lys Asp Glu Trp Ile Ser Gly Ala Ala Val Val Asn Ala Phe Tyr Ser
 530 535 540
 Ser Gly Arg Asn Gln Ile Val Phe Pro Ala Gly Ile Leu Gln Pro Pro
 545 550 555 560
 Phe Phe Ser Ala Gln Gln Ser Asn Ser Leu Asn Tyr Gly Gly Ile Gly
 565 570 575
 Met Val Ile Gly His Glu Ile Thr His Gly Phe Asp Asp Asn Gly Arg
 580 585 590
 Asn Phe Asn Lys Asp Gly Asp Leu Val Asp Trp Trp Thr Gln Gln Ser
 595 600 605
 Ala Ser Asn Phe Lys Glu Gln Ser Gln Cys Met Val Tyr Gln Tyr Gly
 610 615 620
 Asn Phe Ser Trp Asp Leu Ala Gly Gly Gln His Leu Asn Gly Ile Asn
 625 630 635 640
 Thr Leu Gly Glu Asn Ile Ala Asp Asn Gly Gly Leu Gly Gln Ala Tyr
 645 650 655
 Arg Ala Tyr Gln Asn Tyr Ile Lys Lys Asn Gly Glu Glu Lys Leu Leu
 660 665 670
 Pro Gly Leu Asp Leu Asn His Lys Gln Leu Phe Phe Leu Asn Phe Ala
 675 680 685
 Gln Val Trp Cys Gly Thr Tyr Arg Pro Glu Tyr Ala Val Asn Ser Ile
 690 695 700
 Lys Thr Asp Val His Ser Pro Gly Asn Phe Arg Ile Ile Gly Thr Leu
 705 710 715 720
 Gln Asn Ser Ala Glu Phe Ser Glu Ala Phe His Cys Arg Lys Asn Ser
 725 730 735
 Tyr Met Asn Pro Glu Lys Lys Cys Arg Val Trp
 740 745

<210> 5
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Human PEX-specific primer

<400> 5
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<220>
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<400> 6

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<223> Human PEX-specific primer

<400> 7

<220>
<223> Oligonucleotide PEX-4 used as primer

<400> 8

<220>
<223> Oligonucleotide PEX-5 used as primer

<400> 9

<220>
<223> Oligonucleotide PEXMyc1 used as primer

<400> 10
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18

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<210> 11
<211> 70
<212> DNA
<213> Artificial Sequence
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<220>
<223> Oligonucleotide PEXMyc2 used as a primer

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catgcctctg                                     70

```

[illegible]